

[0039] What is claimed is:

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1. A heat spreading connector comprising:
at least one electrical contact supported by a housing wherein said housing comprises a lamination having at least one layer of thermally conductive material supported by at least one layer of a dielectric material so that a portion of said at least one electrical contact is in thermal communication with said at least one layer of thermally conductive material.
2. A heat spreading connector according to claim 1 wherein said housing comprises a plurality of dielectric layers and a plurality of thermally conductive layers.
3. A heat spreading connector according to claim 1 wherein said dielectric layers comprise a thermally conductive insulating.
4. A heat spreading connector according to claim 1 wherein said dielectric layers each have a thickness of about .003 inches to about .007 inches.
5. A heat spreading connector according to claim 1 wherein said at least one layer of thermally conductive material has a thickness of about .001 inches to about .005 inches.

6. A heat spreading connector according to claim 1 wherein said portion of said at least one electrical contact is in thermal communication with an annular edge of each of said at least one layers of thermally conductive material.

AI 7. A heat spreading connector according to claim 1 wherein said housing defines a plurality of holes each having a thermally conductive liner that is arranged in thermal communication with said at least one layer of thermally conductive material wherein each of said electrical contacts are thermally engaged with a portion of said liner.

8. A heat spreading connector according to claim 1 wherein said at least one layer of thermally conductive material is sized larger than said housing so as to form at least one wing projecting outwardly from at least one edge of said housing so as to dissipate heat into the ambient environment.

9. A heat spreading connector according to claim 8 wherein said at least one wing is engaged in thermal communication with a heat sink.

10. A heat spreading connector according to claim 8 wherein at least one discrete wing is thermally bonded to at least one thermally conductive layer.

11. A heat spreading connector comprising:

plurality of electrical contact elements each having a first end and a second end and supported by a housing so that said first end projects outwardly from a first side of said housing and said second end projects outwardly from a second side of said housing; wherein

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said housing is formed from at least one layer of thermally conductive material supported by at least one layer of a dielectric material so that a portion of each of said plurality of electrical contacts is in thermal communication with said at least one layer of thermally conductive material.

12. A heat spreading connector according to claim 11 wherein at least one thermally conductive layer comprises a lead frame and said two layers of dielectric material comprise a polymer disposed in surrounding relation to portions of said lead frame.

13. A heat spreading connector according to claim 11 wherein said housing defines a plurality of holes each having a portion of said lead frame arranged in thermal communication one of said electrical contacts.

14. A heat spreading connector according to claim 11 wherein said lead frame is sized larger than said housing so as to form at least one wing projecting outwardly from at least one edge of said housing so as to form a heat radiator to dissipate heat into the ambient environment.

15. A heat spreading connector according to claim 14 wherein said at least one wing is engaged in thermal communication with a heat sink.

16. A heat spreading connector according to claim 14 wherein at least one discrete wing is thermally bonded to a portion of said lead frame.

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17. A method of heat dissipation for an electronic device, comprising:
providing a connector comprising plurality of electrical contacts supported by a housing wherein said housing is formed from at least one layer of thermally conductive material supported by at least one layer of a dielectric material so that a portion of each of said plurality of electrical contacts is in thermal communication with said at least one layer of thermally conductive material;

- a. positioning said connector intermediate an electronic device and a printed circuit board; and
- b. conducting heat away from said electronic device through said at least one layer of thermally conductive material.

18. The method of claim 17 further comprising providing a heat transfer wing to said at least one layer of thermally conductive material.

19. The method of claim 18 wherein said heat transfer wing is thermally engaged with a heat transfer device.

20. The method of claim 19 wherein said heat transfer device is selected from the group of heat transfer devices consisting of printed circuit boards, heat transfer devices attached to printed circuit boards, fins extended into ambient air from said thermally conductive material, passive heat transfer devices, pins associated with the electronic device, and active heat transfer devices.

21. The method of claim 17 wherein said connector connects at least one of a land grid array mounted electronic device and a pin grid array mounted electronic device.

22. A pin grid array socket comprising a dielectric first layer and a thermally conductive second layer, said second layer comprising ground and power planes and said first layer comprising a thermally conductive dielectric material.

23. A land grid array connector comprising a dielectric first layer and a thermally conductive second layer, said first layer comprising ground and power planes and said second layer comprising a thermally conductive material to dissipate heat.